

ABSTRACT

5 This invention discloses immunopotentiating agents
which stimulate an immune response. These agents are
categorized into single agents that act directly, adjuvants
added concurrently with the agents, or heteroconjugates.
Heteroconjugate agents elicit or enhance a cellular or
humoral immune response which may be specific for an epitope
contained within an amino acid sequence. Enhanced
10 hematopoieses by bone marrow stem cell recruitment was also
a result of administering some of these agents.

15 Examples of immunopotentiating agents include
monoclonal antibodies and proteins derived from
microorganisms (e.g., enterotoxins) which activate T cells.
One method of treatment disclosed uses only the
immunopotentiating agent to stimulate the immune system.
Another uses adjuvants in combination with the agent. A
third method employs heteroconjugates.

20 Heteroconjugates comprise: (a) an immunopotentiating
protein which is characterized as having an ability to
stimulate T cells; and (b) a second protein having an amino
acid sequence which includes an epitope against which a
cellular or humoral response is desired. This invention
25 also relates to a method of preparing the heteroconjugate,
and to a method of stimulating the immune system in vivo in
a novel way. One route of stimulation is to activate T
cells, in some instances, specific subsets of T cells, by
administering heteroconjugates containing an
30 immunopotentiating protein and a second protein, to mammals.
For this method of treatment, the second protein in the
heteroconjugate is derived from abnormal or diseased tissue,
or from an infectious agent; alternatively, the second
35 protein is produced synthetically by standard methods of

molecular biology. Sources of the second protein include tumors, viruses, bacteria, fungi, protozoal or metozoal parasites.

5 Monoclonal antibodies or T cells prepared from mammals whose immune systems have responded to administration of the heteroconjugate may be produced and administered to induce passive immunity. A method of preparing a hybridoma which secretes said monoclonal antibodies and use of these
10 monoclonal antibodies and T cells, are also disclosed. This invention is also directed to a vaccine comprising the heteroconjugate.

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